

2009 Middle School Math Festival Team Round: McDougal Littell Course 1

Unless stated in the problem, answers will be written as an integer or an exact decimal (i.e. do not round). Any problems requiring a common fraction or mixed number for the answer will always require the fractional part to be in lowest terms.

1. Calculate $\frac{A}{B}$ where $A = 23 + 15$ and $B = 123 - 67$.

Write the answer as a common fraction.

2. Calculate CD where $C = 8 - 5 + 2 - 3$ and $D = 24 \div 4 \times 2 \div 3$.

3. Calculate $E + F$ where $E = 6^3$ and $684 \div F = 12$.

4. Calculate (Mean - Median) for the following data: {3, 4, 2.5, 2.2, 4.9, 3.1, 3.4}.

5. A rectangle has a length and width of 9 and 6, respectively. Calculate $\frac{\text{Area}}{\text{Perimeter}}$.

6. Calculate PQ where $P = \text{sixty-three hundredths}$ $Q = 0.824 - 0.61$

7. Calculate $R + S$ where $S = (9.2)(0.36)$ and $R = 29 \div 8$.

8. Calculate $V - W$ where $V \text{ liters} = 48 \text{ milliliters}$ and $2.1 \text{ centimeters} = W \text{ meters}$.

9. Calculate $\frac{A}{B}$ where $A = \text{GCF of 30 and 45}$ and $B = \text{LCM of 15 and 25}$.

Write the answer as a common fraction.

10. Calculate $M + N$ where $M = 2\frac{5}{12} + 4\frac{2}{3}$ and $N = 4\frac{1}{6} - 1\frac{2}{3}$.

Write the answer as a common fraction.

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11. Calculate $C + D$ where $C = \frac{7}{8} \times 1\frac{1}{2}$ and $D = 1\frac{3}{4} \div \frac{2}{3}$.

Write the answer as a mixed number.

12. Calculate $E - F$ where $\frac{5}{8} = E\%$ and 8% of $468.75 = F$.

13. A right triangle has legs of lengths 8 and 15. A parallelogram has a base of 12 and a height 10. Calculate $(\text{Area}_{\text{triangle}})(\text{Area}_{\text{parallelogram}})$.

14. A circle has a diameter of 5. Calculate $\frac{\text{Area}_{\text{circle}}}{\text{Circumference}_{\text{circle}}}$.

Write the answer as a decimal.

15. You have a bag of 10 marbles with 2 red, 3 blue, and 5 green. You reach into the bag without looking and pull out one marble.

Calculate $D + E$ where

$D =$ probability of picking a red marble

$E =$ probability of *not* picking a green marble

Write the answer as a common fraction.